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09/632,393	08/04/2000	Dale Scholtens	06269-027001	1972

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EXAMINER

MCLOUGHLIN, MICHAEL I

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 11/19/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,393

Applicant(s)

SCHOLTENS ET AL.

Examiner

Michael I McLoughlin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/04/00 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, ~~4, 5, 6, 7, 8~~, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by the ITU-T Recommendation I.610, B-ISDN Operation and Maintenance Principles and Functions, hereinafter referred to as I.610.

Regarding claim 1, I.610 discloses a method/system of performing/executing a continuity check operation (see VPC continuity check; section 6.2.1.1.2 on page 15, and VCC continuity check; section 6.2.2.1.2 on page 20) comprising:

- sending a pattern of bits over a packet network connection through a first interface on a packet network to a second interface on the packet network (sending a pattern of bits coded per figure 10/I.610 with OAM type and Function type coded for continuity check, and the Function specific field encoded 6AH; see section 7.2.3 through a first physical interface residing in end point A on the left of figure 2/I.610 to a second interface residing in end point B on the right of figure 2/I.610 for either the VPC or VCC),
- monitoring the first interface for return of the pattern of bits over the packet connection (monitoring the first interface of end node a when

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the connection is activated for bidirectional continuity check on connection A to B per section 6.2.3; see the last 9 lines on page 24)

- deciding whether the continuity check is successful based on whether the pattern of bits is detected at the first interface during the monitoring (the VPC sink-point does not receive a continuity check cell; line 7 on page 16, or the VCC sink-point does not receive a continuity check cell; line 12 on page 21).

3. Regarding claim 2, I.610 further discloses providing a loop between incoming and outgoing packet streams associated with the packet network connection (VPC loopback capability; see section 6.2.1.1.3, or VCC loopback capability; see section 6.2.2.1.3).

4. Regarding claim 3, I.610 further discloses repeatedly sending the pattern of bits over the packet network connection during the monitoring (continuity check sent repetitively with a periodicity of one cell per second; line 5 of page 16 for a VPC, and line 10 of page 21 for a VCC).

5. Regarding claim 9, I.610 discloses that the continuity check is considered a failure if the pattern of bits is not detected at the first interface during the monitoring within a specified period (within a time interval of 3.5 seconds; see lines 7-8 of page 16 for a VPC, and lines 12-13 of page 21 for a VCC).

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Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims ⁴⁻⁸~~4, and 5~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over I.610 in view of Committee T1S1 Contribution on Q.SCOBB (9S101470), hereinafter referred to as Q.SCOBB.

Regarding claim 4, I.610 discloses the method of the parent claim 1, and further discloses that the continuity check is performed during the set-up process for a broadband connection over a packet network (see during connection establishment on line 4 of section 6.2.1.1.2 on page 15 for a VPC, and line 1 of page 21 for a VCC). However, I.610 fails to teach set-up of a narrowband call. The difference between the claimed invention and I.610 is that the claimed packet network supports narrowband calls. Q.SCOBB teaches support of narrowband services via broadband bearer technologies (see abstract) and includes continuity check or COT in item 9 of page 29.

8. Regarding claim 5, I.610 discloses the method of the parent claim 1, but fails to teach the call set-up process includes Signaling System 7 messages. Q.SCOBB teaches a call set-up process with COT for a narrowband call over a packet network in section

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7.1.3.2 that includes Signalling System 7 ISUP messages (see page 5, section 1.1, item 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the packet network of I.610 with the teaching of Q.SCOBB to support narrowband calls using Signaling System 7 messages and would have arrived at the claimed invention. One would have been motivated to make this modification to allow interworking between existing narrowband networks and packet networks.

9. Regarding claim 6, I.610 does not disclose a pattern of bits sent over the packet network connection includes a first byte all of whose bits are a first value and a second byte all of whose bits are a second different value. However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

10. Regarding claim 7, I.610 does not disclose a pattern of bits that includes multiple bytes each having multiple bits, wherein a single bit in each byte has a value that differs from all other bits in the byte, and wherein the bit having the different value is shifted by one position between adjacent bytes. However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of

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the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

11. Regarding claim 8, I.610 does not disclose a pattern of bits that includes first and second bytes each of whose bits alternate in value, and wherein the value of the second byte is the complement of the value of the first byte. However, it would have been an obvious matter of design choice to modify the I.610 reference by having the claimed bit patterns instead of the 6AH coding since applicant has not disclosed specific problems that these bit patterns solve, discloses that bit patterns may depend on the application (line 3 of page 10 the specification) and also discloses that other patterns can be generated (line 9 of page 10 of the specification).

12. Claims 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howell (U.S. 6,470,019), hereinafter referred to as Howell, in view of Nakayama et al. (U.S. 5,555,261), hereinafter referred to as Nakayama.

13. Regarding claim 10, Howell discloses an apparatus configured to adapt circuit-switched and packet-based bearers and configured to execute continuity check operations (ATM interworking unit 212 of figure 2 configured to adapt non-ATM to ATM; see column 5 lines 45-65, and configured to execute continuity check operations via messages from external resources; see column 10 line 64 through column 11 line 6). Howell teaches tone to decide success of continuity check, but does not teach a bit pattern

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generator or detector, which is used by the claimed invention to decide continuity check success instead of tone. Nakayama teaches an apparatus comprising a bit pattern generator and a bit pattern detector (pattern generator 114 and pattern checker 144 of figure 41, respectively), wherein the pattern generator is arranged to generate a pattern of bits to be sent over a packet network connection (see column 35 lines 31-39), and the bit pattern detector is arranged to monitor return of the pattern of bits over the packet network connection (pattern checker 144 receives the test data see column 36 line 27), wherein the apparatus is configured to decide whether the continuity check is successful based on whether the generated pattern of bits is detected by the bit pattern detector (pattern checker 144 compares the received test data to the known test data, and if the data agree, judges that the path normal, see column 36 lines 27-31). It would have been obvious to one of ordinary skill in the art to modify Howells' apparatus to include Nakayama's pattern generator and pattern checker and would have resulted in the claimed invention, in order to have integral resources for continuity checks and a capability for more precise success determination with bit patterns as opposed to tones.

14. Regarding claim 12, Howell discloses an apparatus of the patent claim 10, further configured to perform continuity check during a call set-up process for a narrowband call over the packet network (see ISUP in line column 9 on line 40, and COT and CCR messages on page 12).

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Howell in view of Nakayama as applied to claim 10 above, and further in view of I.610. Howell in

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view of Nakayama teach the apparatus of the patent claim 10, in which the bit pattern is sent for a continuity check. Howell fails to teach sending the pattern of bits repeatedly over the packet network connection. I.610 teaches sending the pattern of bits repeatedly over the packet network connection (continuity check sent repetitively with a periodicity of one cell per second; line 5 of page 16 for a VPC, and line 10 of page 21 for a VCC). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Howell in view of Nakayama with the teaching of I.610 to repeatedly send the bit pattern, in order to know that continuity is maintained after call connection for the duration that the call is in an active state.

16. Claims 13, 14, 16, 17, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Q.SCOBB, in view of Nakayama.

17. Regarding claim 13 and 17, Q.SCOBB discloses a communications system (see figure 1-1) comprising

- A packet network (shaded Backbone Network of figure 1-1); and
- A first gateway (that inherently includes computer-executable instructions, or software) coupled to a first interface on the packet network configured to execute continuity operations (gateway ISN-A coupled to first interface BSF-N configured to execute continuity check or COT, see step 9 on page 29). Q.SCOBB fails to teach a pattern generator, a pattern detector, or deciding continuity check success. Nakayama teaches a gateway, wherein the gateway includes a bit pattern generator and a bit pattern detector (pattern generator 114 and pattern checker 144 of figure 41,

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respectively), wherein the pattern generator is arranged to generate a pattern of bits to be sent over a packet network connection in the packet network (see column 35 lines 31-39), and the bit pattern detector is arranged to monitor return of the pattern of bits over the packet network connection (pattern checker 144 receives the test data see column 36 line 27), wherein the gateway is further configured to decide whether the continuity check is successful based on whether the generated pattern of bits is detected by the bit pattern detector (pattern checker 144 compares the received test data to the known test data, and if the data agree, judges that the path normal, see column 36 lines 27-31).

Further, Nakayama teaches loopback in 151 of figure 41 that applies to receiving and judging the test pattern above in pattern checker 144, and applies to claims 14 and 18 below.

It would have been obvious to one of ordinary skill in the art to modify Q.SCOBB's gateway to include Nakayama's pattern generator and pattern checker and would have resulted in the claimed invention, in order to have integral resources for continuity checks.

18. Regarding claims 14 and 18, Q.SCOBB in view of Nakayama disclose a system as defined in patent claims 13 and 17, including a second gateway coupled to a second interface on the packet network (gateway ISN-B coupled to a second interface BSF-N, see Q.SCOBB figure 1-1) and configured to provide a loop between incoming and outgoing packet streams associated with the packet network connection (loopback portion 151 of figure 41 in Nakayama residing in ISN-B).

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19. Regarding claim 16 and 20, Q.SCOBB discloses a system (that inherently includes computer-executable instructions, or software), in which the gateway is configured to perform the continuity check during the set-up process for a narrowband call over the packet network connection (ISN-A configured to perform COT; see step 9 on page 29 during a set-up process for a narrowband call initiated by ISDN-A through SS7 over the packet network with Call Control between ISN-A and ISN-B shown in figure 1-1).

20. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Q.SCOBB in view of Nakayama as applied to claim 13 above, and further in view of I.610. Q.SCOBB in view of Nakayama disclose the system defined in parent claim 13, in which the bit pattern is sent for a continuity check, but fail to teach sending the pattern of bits repeatedly over the packet network connection. I.610 teaches sending the pattern of bits repeatedly over the packet network connection (continuity check sent repetitively with a periodicity of one cell per second; line 5 of page 16 for a VPC, and line 10 of page 21 for a VCC). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Howell in view of Nakayama with the teaching of I.610 to repeatedly send the bit pattern, in order to know that continuity is maintained after call connection for the duration that the call is in an active state.

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Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 1) Izawa et al. (U.S. 5,241,204), Transmission Test System in a broadband ISDN.
- 2) Uchida et al. (U.S. 5,313,453), Apparatus for testing ATM channels.
- 3) Noiri (U.S. 6,272,137), ATM transmission system with subsystems interconnected through reduced number of signal lines.
- 4) ITU-T, Recommendation I.732, Functional characteristics of ATM equipment.
- 5) ITU-T, Q.Supp16, TRQ2140, BICC Capability Set 1 Requirements, this Technical Report that was called temporarily Q.SCOBB in the drafts of 3/99 and 7/99.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I McLoughlin whose telephone number is 703-308-7911. The examiner can normally be reached on weekdays 7AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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November 5, 2003


HASSAN RIZOU
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